UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,871	12/21/2001	Richard T. Behrens	0094-MS-D1A	6339

7590 06/13/2007	EXAMINER
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MAIL DATE	DELIVERY MODE
06/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)
		10/028,871	BEHRENS ET AL.
Office Action Summary		Examiner	Art Unit
		Kevin Mew	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-31* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-14 and 22-24* is/are rejected.

7)☒ Claim(s) *15-21, 25-31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Detailed Action

Response to Amendment

1.   Applicant's Remarks/Arguments filed on 4/26/2007 have been considered. Claims 1-8

have been cancelled and claims 22-31 have been newly added by applicant. Claims 9-31 are

currently pending.

2.   Upon further consideration by the examiner with respect to claims 9-14, 22-24, the

finality of the previous Office action is withdrawn and a double patenting rejection is made in

view of Behrens et al. (USP 5,424,881).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3.   Claims 9-14, 22-24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,424,881. Note that the applicant filing of the continuing application is voluntary and not the direct, unmodified result of restriction requirement under 35 U.S.C. 121 (i.e. without a restriction requirement by the examiner) and the claims of the second application are drawn to the "same invention" as the first application or patent. Moreover, although the conflicting claims are not identical, they are not patentably distinct from each other because claims 9-14, 22-24 of the instant application merely broadens the scope of the claims of the Behrens patent (USP 5,424,881) by merely eliminating the limitations that are not essential to the claimed invention, which are "said sequence detector including a path memory means for constructing a plurality of sequences of binary digital

signals; and a means for selecting the output sequence of binary digital signals out of the

plurality of sequences store in the path memories" as disclosed in claim 1, col. 14, lines 59-64 of

the Behrens patent. It would have been obvious to one of ordinary skill in the art to eliminate the

inessential elements of claim 1, col. 14, lines 59-64 of Behrens in order to make the claimed

invention.

In claim 10, the limitations of the instant application

"a digital peak detector for detecting characteristics of the digitized read signals

indicative of storage media transitions;

timing recovery circuitry responsive to the digitized read signals and the output of the

digital peak detector to provide a timing control signal for controlling the timing of digitized

samples of the read signal;

a sequence detector responsive to the digitized read signals for receiving a stream of the

digitized read signals and determining a corresponding sequence of binary digital signals likely

to be represented thereby;

an RLL (d,k) decoder for providing a run length limited decoded output by decoding the

sequence of binary digital signals from the sequence detector, or to provide a run length limited

decoded output by decoding a sequence of binary digital signals from the digital peak detector;"

correspond to

"a transition detector responsive to the digitized read signals for providing a digital

output signal responsive thereto;

timing recovery circuitry responsive to the digitized read signals and the output of the

transition detector to provide a timing control signal for controlling the timing of digitized

samples of the read signal;

a sequence detector responsive to the digitized read signals for receiving a stream of the

digitized read signals and determining a corresponding sequence of binary digital signals likely

to be represented thereby;

an RLL (d,k) decoder for providing a run length limited decoded output by decoding the

sequence of binary digital signals from the sequence detector, or to provide a run length limited

decoded output by decoding a sequence of binary digital signals from the digital peak detector"

as disclosed in claim 1, col. 14, lines 47-59, 65-68 of the Behrens patent, and the limitations

"digital pulse shaping filter circuitry for modification of the digitized read signals prior to

receipt thereof by at least one of (i) the sequence detector, (ii) digital peak detector and (iii) the

timing recovery circuit;" correspond to

"digital pulse shaping filter circuitry for modification of the digitized read signals prior to

receipt thereof by at least one of (i) the sequence detector, (ii) digital peak detector and (iii) the

timing recovery circuitry" as disclosed in claim 2, col. 15, lines 8-14 of the Behrens patent, and

the limitations

"delay means for delaying the coupling of the digitized read signals to the digital peak

detector or the timing recovery circuit to match the delay of the coupling of the digitized read

signals to the timing recovery circuitry or the digital peak detector, respectively, imposed by the

digital pulse shaping filter" correspond to "delay means for delaying the coupling of the digitized

read signals to the digital peak detector or the timing recovery circuit to match the delay of the

coupling of the digitized read signals to the timing recovery circuitry or the digital peak detector,

respectively, imposed by the digital pulse shaping filter" as disclosed in claim 3, col. 15, lines

15-20, col. 16, lines 1-2 of the Behrens patent.

In claim 11, the limitations of the instant application

"the digital pulse shaping filter circuitry includes variable filter parameters" correspond

to

"the digital pulse shaping filter circuitry includes variable filter parameters" as disclosed

in claim 4, col. 16, lines 3-5 of the Behrens patent.

In claim 12, the limitations of the instant application

"the digital pulse shaping filter circuitry includes programmable filter parameters"

correspond to

"the digital pulse shaping filter circuitry includes programmable filter parameters" as

disclosed in claim 5, col. 16, lines 6-9 of the Behrens patent.

In claim 13, the limitations of the instant application

"spectrum smoothing filter circuitry for filtering the digitized read signals prior to

processing by the sequence detector" correspond to

"spectrum smoothing filter circuitry for filtering the digitized read signals prior to

processing by the sequence detector" as disclosed in claim 6, col. 16, lines 10-13 of the Behrens

patent.

In claim 14, the limitations of the instant application

"a transition detector responsive to the digitized read signals for providing a digital

output signal responsive thereto;

timing recovery circuitry responsive to the digitized read signals and the output of the

transition detector to provide a timing control signal for controlling the timing of digitized

samples of the read signal;

a sequence detector responsive to the digitized read signals for receiving a stream of the

digitized read signals and determining a corresponding sequence of binary digital signals likely

to be represented thereby;

an RLL (d,k) decoder for providing a run length limited decoded output by decoding the

sequence of binary digital signals from the sequence detector, or to provide a run length limited

decoded output by decoding a sequence of binary digital signals from the digital peak detector"

as disclosed in claim 1, col. 14, lines 47-59, 65-68 of the Behrens patent, and the limitations

"the sequence detector processes two digitized read signals at a time, the two digitized

read signals representing digitized samples of a read signal of a magnetic storage device during

two successive channel bit times" correspond to

"the sequence detector processes two digitized read signals at a time, the two digitized

read signals representing digitized samples of a read signal of a magnetic storage device during

two successive channel bit times" in claim 7, col. 16, lines 14-19 of the Behrens patent.

In claim 9, the limitations of the instant application

"digital pulse shaping filter circuitry for modification of the digitized read signals prior to receipt thereof by at least one of (i) the sequence detector, (ii) digital peak detector and (iii) the timing recovery circuit;" correspond to

"digital pulse shaping filter circuitry for modification of the digitized read signals prior to receipt thereof by at least one of (i) the sequence detector, (ii) digital peak detector and (iii) the timing recovery circuitry" as disclosed in claim 2, col. 15, lines 8-14 of the Behrens patent.

In claim 22, the limitations of the instant application

"the digital pulse shaping filter circuitry includes variable filter parameters" correspond to

"the digital pulse shaping filter circuitry includes variable filter parameters" as disclosed in claim 4, col. 16, lines 3-5 of the Behrens patent.

In claim 23, the limitations of the instant application

"the digital pulse shaping filter circuitry includes programmable filter parameters" correspond to

"the digital pulse shaping filter circuitry includes programmable filter parameters" as disclosed in claim 5, col. 16, lines 6-9 of the Behrens patent.

In claim 24, the limitations of the instant application

"spectrum smoothing filter circuitry for filtering the digitized read signals prior to processing by the sequence detector" correspond to

"spectrum smoothing filter circuitry for filtering the digitized read signals prior to

processing by the sequence detector" as disclosed in claim 6, col. 16, lines 10-13 of the Behrens

patent.

Response to Arguments

4.   Applicant's arguments filed on 4/26/2007 with respect to claims 9-14, 22-24 have been

fully considered but are moot in view of the double patenting rejection indicated above.

Allowable Subject Matter

5.   Claims 9-14, 22-24 would be allowable subject to the double patenting rejection above.

6.   Claims 15-21, 25-31 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims, subject to removal of the double patenting rejection of claims

9-14, 22-24 set forth above.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KM

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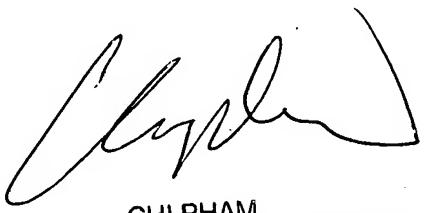
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